

quarters apart, and the convexity of the curve three-quarters of an inch, and when opened it presents a crescent-like form with the horns still directed *forwards*.

The mammary orifices are inguinal, and lie one on each side of the longitudinal folds or labia which conceal and are common to the anal, vaginal and vesical orifices, and are equidistant from its extremities: each is concealed within a small longitudinal fold and about half an inch from the former.

The external auditory meatus is very small and puncture-like, surrounded by a delicate membranous ruffle about $\frac{1}{32}$ nd part of an inch in height.

The following are some of the measurements:—

	ft.	in.
Whole length	8	4 $\frac{1}{2}$
Girth	4	8
Nose from the convexity of forehead to point	0	4
Length of mouth	1	0
Nose to eye	1	2
Nose to respiratory aperture	1	2
Nose to pectoral fin	1	10 $\frac{1}{2}$
Nose to dorsal fin	3	10
Length of dorsal fin	1	4
Height of dorsal fin	0	8
Breadth of caudal fin	1	8
Length of pectoral fin, anterior slope	1	1
Length of pectoral fin, posterior slope	0	8 $\frac{1}{2}$
Breadth of upper jaw at the base of the rostrum	0	3 $\frac{1}{4}$
Breadth of under jaw at the base of the rostrum	0	3 $\frac{1}{2}$
Length of the fold or labia common to and concealing the anal, vaginal and vesical orifices	0	6
Length of vaginal orifice including the vesical	0	3
Length of perinæum	0	1 $\frac{1}{2}$
Length of the fold, including the mammary orifice or nipple	0	0 $\frac{3}{4}$
Collapsed nipple in length	0	0 $\frac{1}{4}$
Collapsed nipple in width at its base.....	0	0 $\frac{1}{2}$

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XI.—*On Entozoa found in the Lungs of a Sheep.* By JOHN GRAY SANDIE, M.D., and GEORGE PADLEY, Esq., Liverpool.

[With a Plate.]

WHILE passing along the street the other day, our attention was drawn to the lungs of a sheep exposed for sale at a butcher's shop. As the animal had been killed but a few hours before, the organ in question was quite fresh. From the middle to the base of the anterior margin of the lung, a number of opaque masses were observed, the smallest of which was the size of a split-pea, while the largest appeared to be as big as a hazel-nut. On cutting into them two different kinds of matter were apparent, one

more opaque and interspersed with numerous white specks, while the other was semitransparent and resembled soft tubercle. The exterior of all the masses lay immediately underneath the serous membrane, and some of them penetrated the pulmonary tissue, which was otherwise healthy, for about a quarter of an inch.

A thin section was placed beneath the microscope and examined by reflected light, when a great many little objects, probably the white specks just spoken of, resembling in colour and outline grains of pearl barley, were seen distributed through the surrounding tissue. But with the aid of transmitted light and lenses of greater magnifying power ($\frac{1}{4}$ -inch focus), a number of animalcules, such as represented in the annexed figure (Plate V. *B* fig. 1), were seen coiled up and imbedded in a brownish mass consisting of minute cells and granules. They were very abundant in the opaque portion of the section, and were very closely aggregated together in spots probably corresponding to the specks, whereas in the intervening portions as well as in the surrounding more transparent structure, comparatively few were to be found. On making our first observation each individual was inclosed in a transparent membrane, which upon a subsequent examination was proved to be the wall of the ovum. We afterwards found many that had escaped from this envelope lying free in the morbid substance. Some were in the form of the letter S, while others presented a more complex convolution. On scraping a small portion from one of the tumours and mixing it with a little water between two slips of glass, the animals were seen to greater advantage, and their position in the pellucid covering was better defined. On several occasions we saw the animal liberate itself from the membrane in which it was encased; this was accomplished by the approximation of the head and tail, which were subsequently separated, and driven against the sides of the sac that had previously been elongated, with such force as to rupture it and so set the animal at liberty. In its movements, which were vermicular, the animal showed considerable activity. As it lay extended when quiescent the head appeared of a conical shape, and the tail presented a small, curved, flexible, filiform appendage which was very characteristic (Pl. V. figs. 1, 2, 3). The integuments being transparent the alimentary canal could be distinctly traced, commencing narrow at the head, enlarging somewhat and terminating near the tail. In some this canal was empty (fig. 2), and the parietes of the tube clearly defined. In others it was occupied with granular matter (fig. 3) having much the appearance of the substance with which they were surrounded; in some instances to such an extent as to fill completely the interior of the animal.

These Entozoa resemble the *Trichina spiralis* found in mus-

cular tissue more than any other parasite with which we are acquainted, although differing from it in habitat, in having little caudal appendage, and in being without, as far as we could discover, any distinct cyst, excepting that of the ovum before alluded to. This is the first instance within our knowledge of Entozoa having been found in the lungs. The *Filaria bronchialis* inhabits the bronchial glands, and is moreover about an inch in length.

We had an opportunity likewise of examining the ova of these animals, and of observing them in several stages of development. Some contained a simple oval granular mass (fig. 4); in others this appeared to be contracting (fig. 5), and in various stages of division and subdivision. In some there was a separation into two parts (figs. 6 & 7); others presented a mulberry mass similar to that found in the ova of other animals (figs. 8 & 9). Different degrees of progressive formation were observed from this subdivision up to the completion of the perfect animal coiled up within its unruptured envelope (fig. 10).

XII.—*The Musci and Hepaticæ of the Pyrenees.*

By RICHARD SPRUCE.

[Concluded from vol. iii. p. 503.]

Subtribus 2. JUNGERMANNIDEÆ, N. ab E.

5. *Plagiochila*, Nees et Mont.

8. *P. asplenioides*, L.; Hook. Br. Jung. t. 13 (sub *Jung.*); Syn. Hep. p. 49.

Hab. Z_{0-3} in umbrosis per montes totos. In Pyrenæis tres præprimis formas innotavi: sunt—

1. *minor*; H. P. 6: caule gracili, squamis minutissimis (ne amphigastriis dicam) in ventre adperso vel nudo; foliis subsecundis, margine dorsali valde reflexis et ex eo ad *P. porelloidem* appropinquans.—*Hab.* in sylvis Pyren. centralium.

2. *major*; H. P. 7: foliis maximis, confertis, patulis; squamis caulinis obviis, plerumque amorphis, nonnullis bifidis, nonnullis lineari-digitatis.—*Hab.* in valle du *Lys*.

3. *heterophylla*, N. ab E.? Syn. Hep. p. 50; H. P. 8: caule flagellifero, squamis minutis subulatis prædito; foliis repandis, retusis emarginatisve.—*Hab.* Val de Jéret et Bois de Gouerdère, in ripibus umbrosissimis.

9. *P. Pyrenaica*, Spruce in Hep. Pyren. n. 9: caule horizontali in planum ramoso; foliis imbricatis, plano-distichis aut ascendentibus, subconvexis, ovato-subquadratis, apice variis, ob-